

**SONY.**

3-050-119-01(2)

# **CD Radio Cassette-Corder**

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Operating Instructions

**CFD-S23  
CFD-S33**

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## Warning

To prevent fire or shock hazard, do not expose the player to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## CAUTION

The use of optical instruments with this product will increase eye hazard.

## WARNING

Do not install the appliance in a confined space, such as a bookcase or built-in cabinet.

## For customers in Canada

To prevent electric shock, match wide blade of plug to wide slot, fully insert.

## Information

### For customers in the United States

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

## Owner's Record

The model number is located at the bottom and the serial number is located in the battery compartment.

Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

## About this manual

The instructions in this manual are for the CFD-S23 and CFD-S33. Before you start reading, check your model number. The CFD-S23 is the model used for illustration purpose.

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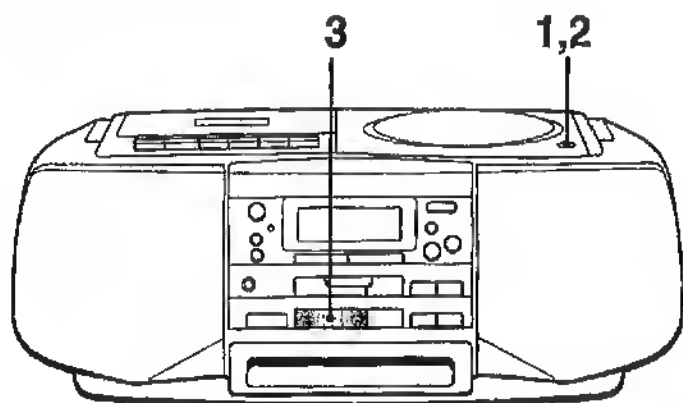
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# Playing a CD



Connect the supplied AC power cord (see page 22).

**1**

Press **△OPEN/CLOSE** down to open the CD compartment and place the CD on the CD compartment.

With the label side up

**2**

Close the lid of the CD compartment.

**3**

Press **▶II** (direct power-on).  
The player plays all the tracks once.

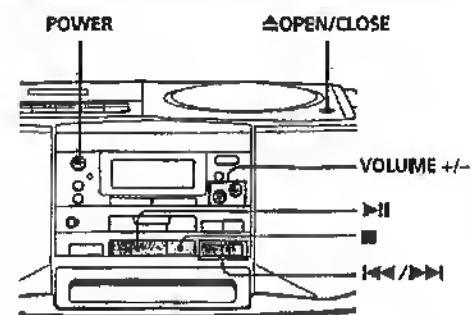
Display

Track number    Playing time

## Tip

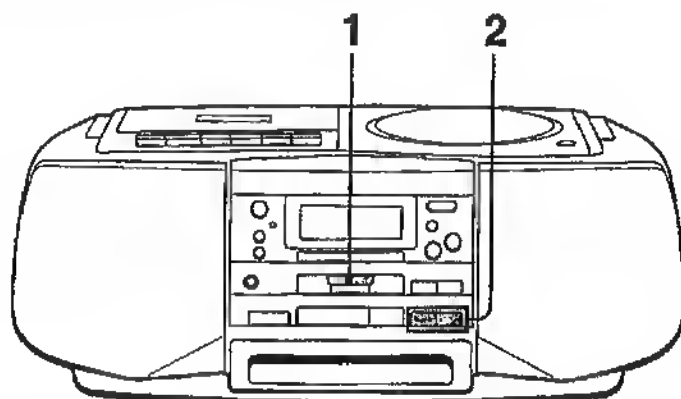
Next time you want to listen to a CD, just press **▶II**. The player turns on automatically and starts playing the CD.

Use these buttons for additional operations



To	Press
Adjust the volume	VOLUME +/-
Stop playback	■
Pause playback	▶II Press again to resume play after pause.
Go to the next track	▶▶
Go back to the previous track	◀◀
Remove the CD	△OPEN/CLOSE
Turn on/off the player	POWER

# Listening to the radio



Connect the supplied AC power cord (see page 22).



Press **BAND** until the band you want appears in the display (direct power-on).

Display

AM 530



Hold down **TUNING/TIME SET +/-** until the frequency digits begin to change in the display.

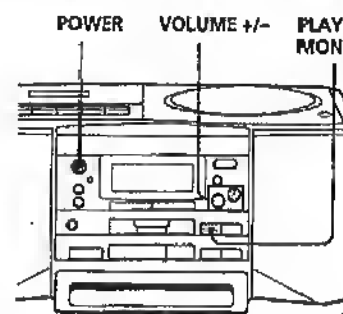
The player automatically scans the radio frequencies and stops when it finds a clear station.

If you can't tune in a station, press the button once at a time.

Indicates an FM stereo broadcast.

FM 89.2

Use these buttons for additional operations



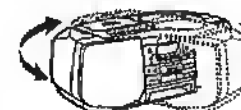
To	Press
Adjust the volume	VOLUME +/-
Turn on/off the radio	POWER

## To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for AM.



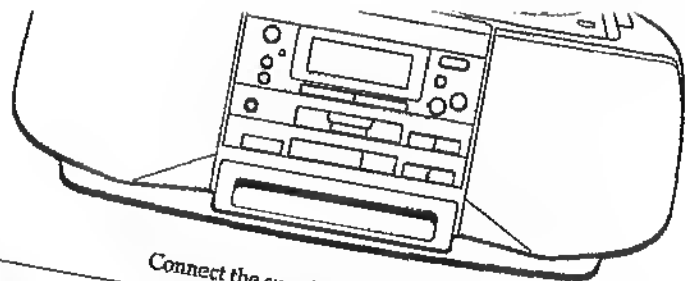
for FM



for AM

## Tips

- If the FM broadcast is noisy, press **PLAY MODE/MONO/ST/ISS** until "Mono" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press **BAND**. The player turns on automatically and starts playing the previous station.



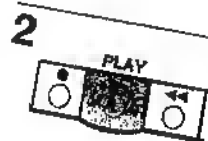
1 Connect the supplied AC power cord (see page 22).



Press to open the tape compartment and insert a recorded tape. Use TYPE I (normal) tape only. Close the compartment.



With the side you want to play facing upward

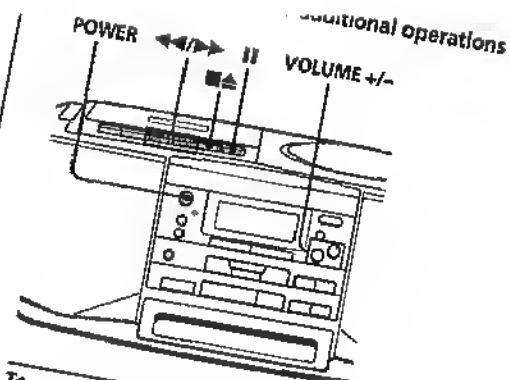


Press .  
The player turns on (direct power-on) and starts playing.

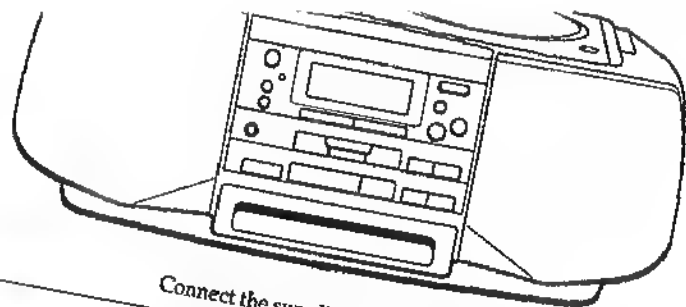
Display

TAPE

**Tip**  
Next time you want to listen to a tape, just press . The player turns on automatically and starts playing the tape.



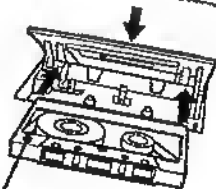
To	Press
Adjust the volume	VOLUME +/-
Stop playback	
Fast-forward or rewind the tape	or
Pause playback	
Eject the cassette	
Turn on/off the player	POWER



1 Connect the supplied AC power cord (see page 22).



Press to open the tape compartment and insert a blank tape. Use TYPE I (normal) tape only.



With the side you want to record on facing upward

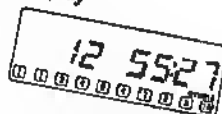
2

Select the program source you want to record.

To record from the CD player, insert a CD (see page 4) and press on the CD section.

To record from the radio, press BAND and tune in the station you want (see page 6.)

Display

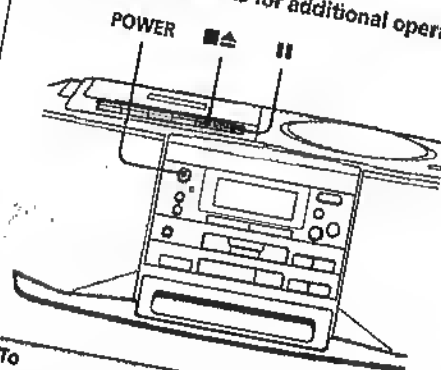


Press to start recording.  
( is depressed automatically.)

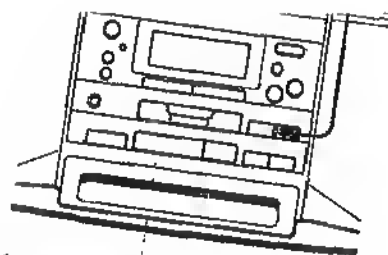
#### Tips

- Adjusting the volume or the audio emphasis (see page 23) will not affect the recording level.
- If the AM program makes a whistling sound after you've pressed in step 3, press PLAY MODE/MONO/ST/IES to select the position that most decreases the noise.
- For the best results, use the AC power as a power source.
- To erase a recording, proceed as follows:  
1 Press and then press . Insert the tape whose recording you want to erase into the tape compartment.  
2 Press .

#### Use these buttons for additional operations



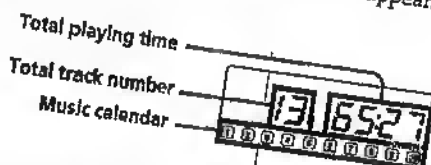
To	Press
Stop recording	
Pause recording	
Turn on/off the player	POWER



### Checking the total track numbers and playing time

Check the display in stop mode.

If the CD has more than 10 tracks, "OVER 10" appears in the display.



### Checking the remaining time

Press DISPLAY/ENT/MEM while playing a CD.

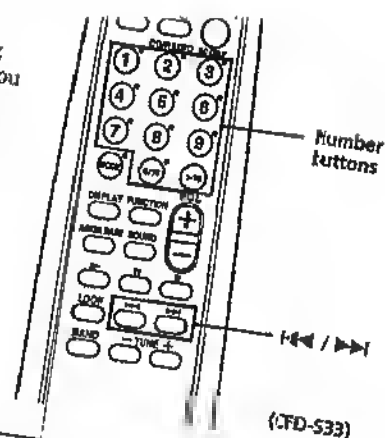
The track numbers in the music calendar disappear after they are played.

To display	Press DISPLAY/ENT/MEM
The current track number and the remaining time on the current track*	Once
Remaining time on the CD and the number of tracks left	Twice
The current track number and playing time	Three times

\* For a track whose number is more than 20 the remaining time appears as "--:--".

The CD Player

... quickly locate any track using the number buttons (CFD-S33 only.) You can also find a specific point in a track while playing a CD.



Number buttons

(CFD-S33)

#### Note

CFD-S33 only:  
You cannot locate a specific track if "SHUFFLE" or "PGM" is lit in the display. Turn off the indication by pressing ■.

#### Tip

CFD-S33 only:  
When you locate a track numbered over 10, press >10 first, then the corresponding number buttons.

#### Example:

To play track number 23, press >10 first, then 2 and 3.

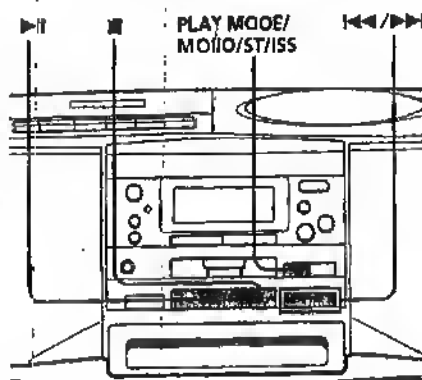
To locate	Press
a specific track directly (CFD-S33 only)	number button of the track.
a point while listening to the sound	▶▶ (forward) or ◀◀ (backward) while playing and hold down until you find the point.
a point while observing the display	▶▶ (forward) or ◀◀ (backward) in pause and hold down until you find the point.

The CD Player

## Playing tracks repeatedly

### (Repeat Play)

You can play tracks repeatedly in normal, shuffle or program play modes (see page 15).



#### Tips

##### CFD-S33 only:

- To enjoy a short repeat play, use LOOP on the remote.
- As soon as you press and hold LOOP during play, the player starts a loop play of the part between the point where you pressed LOOP and a point about a second behind. When you release LOOP, the player returns to normal play.
- On the remote, use MODE instead of PLAY MODE/MONO/ST/ISS.

#### 1 Press ■.

"Cd" appears in the display

#### 2 Press PLAY MODE/MONO/ST/ISS until the repeat mode you want appears in the display.

To repeat	Select
a single track	REP 1
all the tracks	REP ALL
tracks in random order	SHUF REP
programed tracks	PGM REP and then program tracks (see step 3 on page 15).

#### 3 Do either of the following to start repeat play:

- When you've selected REP1, select the track by pressing ◀◀ or ▶▶ and press ▶▶.
- When you've selected REP ALL, SHUF REP or PGM REP, press ▶▶.

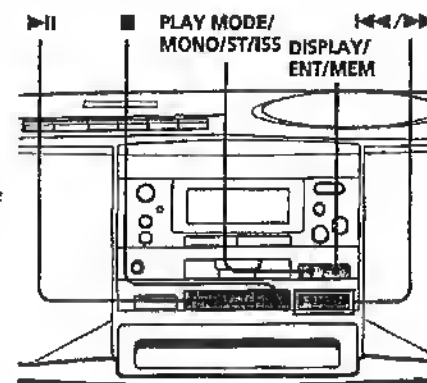
#### To cancel Repeat Play

Press PLAY MODE/MONO/ST/ISS until "REP" disappears in the display.

## Creating your own program

### (Program Play)

You can make a program of up to 20 tracks in the order you want them to be played.



#### Tips

##### CFD-S33 only:

To create your own program on the remote, proceed as follows:

- Press ■.
  - Press MODE until "PGM" appears in the display.
  - Press the number buttons for the tracks you want to program in the order you want.
  - Press ▶▶.
- You can play the same program again, since the program is saved until you open the CD compartment.
  - You can record your own program. After you've created the program, insert a blank tape into the tape compartment and press ● to start recording.

#### 1 Press ■.

"Cd" appears in the display.

#### 2 Press PLAY MODE/MONO/ST/ISS until "PGM" appears in the display.

#### 3 Press ◀◀/▶▶ and press DISPLAY/ENT/MEM for the tracks you want to program in the order you want. You can program up to 20 tracks.



Programed track

Playing order

#### 4 Press ▶▶ to start program play.

#### To cancel Program Play

Press PLAY MODE/MONO/ST/ISS until "PGM" disappears from the display.

#### To check the order of tracks before play

Press DISPLAY/ENT/MEM.

Every time you press the button, the track number appears in the programed order.

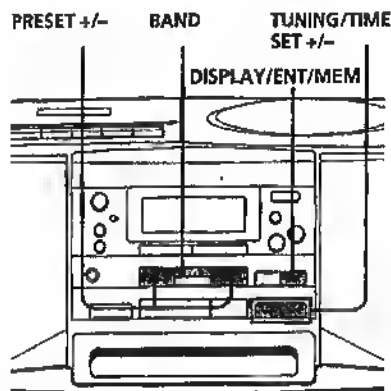
#### To change the current program

Press ■ once if the CD is stopped and twice if the CD is playing. The current program will be erased. Then create a new program following the programming procedure.

The CD Player

## Presetting radio stations

You can store radio stations into the player's memory. You can preset up to 20 radio stations, 10 for each FM and AM in any order.



### Tip

*CFD-S33 only:*  
To preset radio stations on the remote, proceed as follows:

- 1 Press BAND until the band you want appears in the display.
- 2 Tune in a station you want.
- 3 Hold down the number buttons that you want to preset the new station for about 2 seconds. The new station replaces the old one.

- 1 Press BAND until the band you want appears in the display.
- 2 Hold down BAND for about 2 seconds until "AUTO" appears in the display.
- 3 Press DISPLAY/ENT/MEM.  
The stations are stored in memory from the lower frequencies to the higher ones.

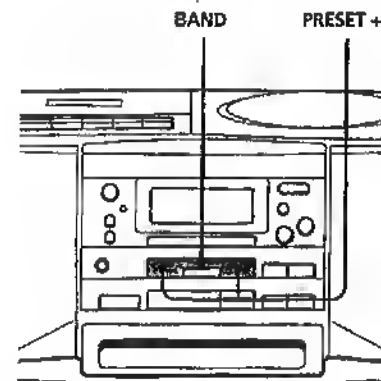
### If a station cannot be preset automatically

You need to preset a station with a weak signal manually.

- 1 Press BAND to select the band.
- 2 Tune in a station you want.
- 3 Hold down DISPLAY/ENT/MEM for about 2 seconds.
- 4 Press PRESET +/- until the preset number (1 to 10) you want for the station flashes in the music calendar.
- 5 Hold down DISPLAY/ENT/MEM again.  
The new station replaces the old one.

## Playing preset radio stations

Once you've preset the stations, use PRESET +/- to tune in your favorite stations.



### Tip

*CFD-S33 only:*  
To play preset radio stations on the remote, proceed as follows:

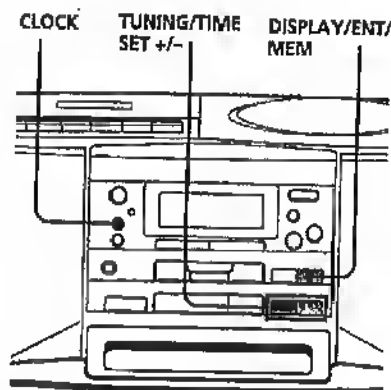
- 1 Press BAND to select the band.
- 2 Press the number buttons to tune in a stored station.

- 1 Press BAND to select the band.
- 2 Press PRESET +/- to tune in a stored station.

## Setting the clock

Before you set the clock, connect the AC power cord (see page 22.)

Before you set the clock, "AM 12:00" flashes.



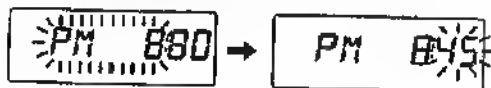
### Tip

The time display system:  
12-hour system

### Note

When you operate the unit with batteries, turn on the power first, then set the clock.

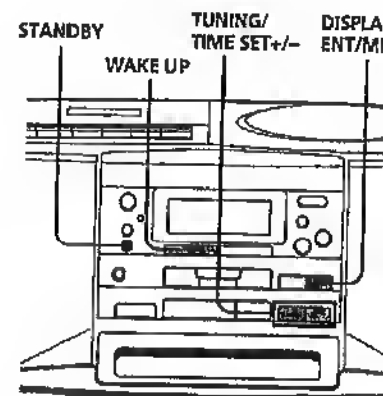
- 1 Press **CLOCK** for about 2 seconds until the hour digit flashes.
- 2 Press **TUNING/TIME SET +/-** until you set the current hour. Then press **DISPLAY/ENT/MEM**.  
The minute digits flash. Set the minutes by pressing **TUNING/TIME SET +/-** until the correct minute is displayed.



- 3 Press **DISPLAY/ENT/MEM**.  
The clock starts from 00 seconds.

## Waking up to music

You can wake up to music or a radio program at a preset time. Make sure you have set the clock ("Setting the clock" on page 18).



### Note

When you operate the unit with batteries, turn on the power first, then set the wake-up timer.

- 1 Prepare the music source you want to play.

To play	Do this
the radio	Tune in a station
a CD	Insert a CD.

- 2 Press **WAKE UP**.

The  $\odot$  (clock) and the music source ("Cd" or "RADIO") flash.

- 3 Select the music source ("Cd" or "RADIO") by pressing **TUNING/TIME SET +/-**, then **DISPLAY/ENT/MEM**.

- 4 Set the timer to the hour you want the music to start by pressing **TUNING/TIME SET +/-**, then **DISPLAY/ENT/MEM**.



Set the minutes, then press **DISPLAY/ENT/MEM**.

- 5 Set the timer to the hour and the minutes you want the music to go off. (Do as step 4.)
- 6 Press **TUNING/TIME SET +/-** to set the volume, then **DISPLAY/ENT/MEM**.

continued

## Waking up to music (continued)

### Tip

You can have the player go on the next day at the same time. Just press **STANDBY** until the  $\odot$  indication appears in the display. The preset settings remain until you reset them.

### Note

The timer mode is canceled:

- when you press  $\blacktriangleright$  button of the tape player while music plays in the timer mode,
- when you select "TAPE" using **FUNCTION** on the remote.

### 7 Press **STANDBY**.

The  $\odot$  indication lights up and the power goes off.

At the preset time, the power will go on, and the music will play. Then the power will go off at the preset time, and the player will enter into the standby mode.

### To check/change when the playback will start

Press **WAKE UP**, then **DISPLAY/ENT/MEM**. Each time you press **DISPLAY/ENT/MEM**, a stored setting lights up. Change the setting if you need to when the setting lights up. When you finish checking, press **WAKE UP** again.

### To use the player before a timer playback starts

Just turn on the player, and then you can use it.

If you turn off the player before the preset time, timer playback will start at the preset time.

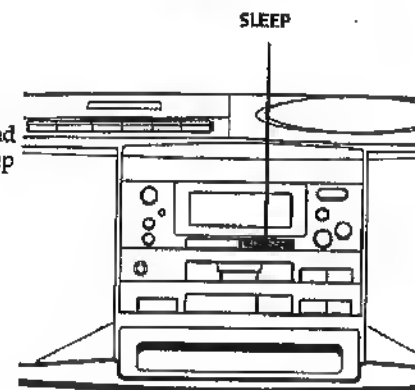
In case of the radio, however, if you listen to the station which is different from the one you tuned in in step 1 on page 19, you will hear that station at the preset time. Make sure to tune in the station you want to listen to before you turn off the player.

### To stop play

Press **POWER**.

## Falling asleep to music

You can set the player to turn off automatically after 10, 20, 30, 60, 90 and 120 minutes, allowing you to fall asleep while listening to music.



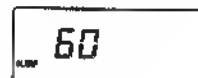
### Tips

- When you are playing radio or CD, make sure that  $\blacktriangleright$  of the tape player is not depressed.
- You can fall asleep and wake up to different music. First, set the wake up timer by following steps in "Waking up to music" on page 19. Then, turn the power on and follow the steps on this page to set the sleep timer. When you are listening to the radio, make sure to tune in the station you want to wake up to.

- 1 Play the music source you want.
- 2 Press **SLEEP** to display "SLEEP."
- 3 Press **SLEEP** to select the minutes until the player goes off automatically.

Each time you press the button, the indication changes as follows:

"60" → "90" → "120" → "no indication" → "10" → "20" → "30"



### To cancel the sleep function

Press **POWER** to turn off the power.

### Note

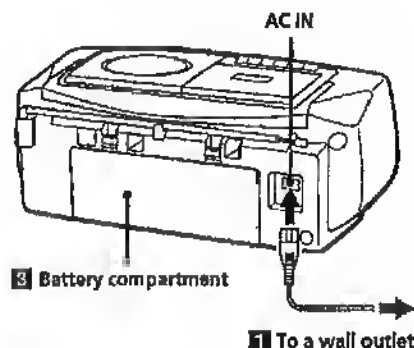
When you are playing a tape using this function:

If the tape length of one side is longer than the set time, the player will not go off until the tape reaches the end.

## Setting Up

## Choosing the power sources

You can use the AC power or batteries as a power source.



## Tip

Preset memories for clock/timer/radio are saved for about 60 minutes even after you disconnect the AC power cord or remove the batteries.

If you want to clear the memories at once, press RESET in the battery compartment.

## Note

CFD-S33 only:  
When you operate the player with the batteries, you cannot turn on the player using the remote.

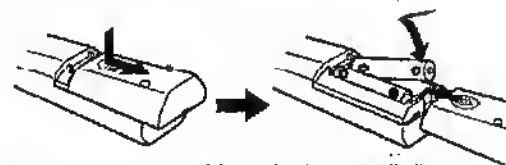
## Tip

Replace the batteries when the OPR/BATT indicator dims or when the player stops operating. Replace all the batteries with new ones. Before you replace the batteries, be sure to take out the CD from the player.

### 1 Connecting the AC power cord

Insert one end of the supplied AC power cord to the AC IN socket located at the rear of the player, and the other end to the wall outlet.

### 2 Inserting batteries into the remote (CFD-S33 only)



Insert two size AA (R6) batteries (not supplied)

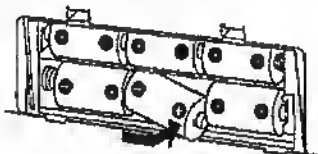
### Replacing batteries

With normal use, the batteries should last for about six months. When the remote no longer operates the player, replace all the batteries with new ones.

### 3 Using the player on batteries

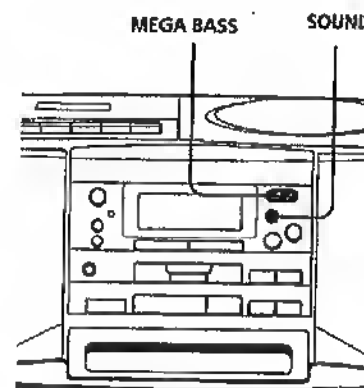
Insert six size D (R20) batteries (not supplied) into the battery compartment.

To use the player on batteries, disconnect the AC power cord from the player.



## Selecting the audio emphasis (Sound Mode/MEGA BASS)

You can adjust the audio emphasis of the sound you are listening to.



### Selecting the sound characteristic

Press SOUND to select the audio emphasis you want.

Choose	To get
ROCK	powerful, clean sounds, emphasizing low and high range audio
VOCAL	the presence of vocals, stressing middle range audio
LIVE	percussive sounds, emphasizing bass audio
POP	light, bright sounds emphasizing high and middle range audio
OFF	the whole dynamic range for music such as classical music

### Reinforcing the bass sound

Press MEGA BASS.

"MEGA BASS" appears in the display. To return to normal sound, press the button again.

## Precautions

### On safety

- As the laser beam used in the CD player section is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- Should any solid object or liquid fall into the player, unplug the player, and have it checked by qualified personnel before operating it any further.

### On power sources

- For AC operation, use the supplied AC power cord; do not use any other type.
- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- Unplug the player from the wall outlet when it is not to be used for an extended period of time.
- For battery operation, use six size D (R20) batteries.
- When the batteries are not to be used, remove them to avoid damage that can be caused by battery leakage or corrosion.
- The nameplate indicating operating voltage, power consumption, etc. is located at the bottom.

### On placement

- Do not leave the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place the player on an inclined or unstable place.
- Do not place anything within 10 mm of the side of the cabinet. The ventilation holes must be unobstructed for the player to operate properly and prolong the life of its components.
- If the player is left in a car parked in the sun, be sure to choose a location in the car where the player will not be subjected to the direct rays of the sun.
- Since a strong magnet is used for the speakers, keep personal credit cards using magnetic coding or spring-wound watches away from the player to prevent possible damage from the magnet.

### On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player section. Should this occur, the player will not operate properly. In this case, remove the CD and wait about an hour for the moisture to evaporate.
- If the player has not been used for a long time, set it in the playback mode to warm it up for a few minutes before inserting a cassette.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

### Notes on CDs

- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.

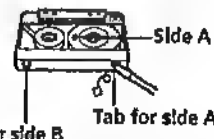


- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight as there can be a considerable rise in temperature inside the car.
- Do not stick paper or sticker on the CD, nor scratch the surface of the CD.
- After playing, store the CD in its case.

If there is a scratch, dirt or fingerprints on the CD, it may cause tracking error.

### Notes on cassettes

- Break off the cassette tab from side / or B to prevent accidental recording, you want to reuse the tape for recording, cover the broken tab with adhesive tape.



- To record on a tape with its tab broken off, cover the respective tab hole for side A or B with adhesive tape.
- The use of a cassette with more than 90 minutes of play time is not recommended except for long, continuous recording or playback.

# Troubleshooting

Symptom	Remedy
General	The power is not on.
	<ul style="list-style-type: none"> <li>• Connect the AC power cord to a wall outlet securely.</li> <li>• Make sure the batteries are inserted correctly.</li> <li>• You cannot turn on the player with the remote when you operate the player on batteries.</li> </ul>
CD Player	There is no audio.
	<ul style="list-style-type: none"> <li>• Make sure the function you want to use appears in the display window.</li> <li>• Adjust the volume.</li> <li>• Unplug the head phones when listening through speakers.</li> </ul>
CD Player	"no disc" lights in the display even when a CD is in place.
	• Insert the CD with the label surface up.
	The CD does not play.
CD Player	<ul style="list-style-type: none"> <li>• Make sure that the CD compartment is closed.</li> <li>• Place the CD with the label surface up.</li> <li>• Clean the CD.</li> <li>• Take out the CD and leave the CD compartment open for about an hour to dry moisture condensation.</li> <li>• Make sure "Cd" appears in the display.</li> </ul>
	The sound drops out.
	<ul style="list-style-type: none"> <li>• Reduce the volume.</li> <li>• Clean the CD, or replace it if the CD is badly damaged.</li> <li>• Place the player in a location free from vibration.</li> </ul>
Radio	The audio is weak or has poor quality.
	<ul style="list-style-type: none"> <li>• Replace all the batteries with new ones if they are weak.</li> <li>• Move the player away from the TV.</li> <li>• If you are using the remote while listening to AM or LW radio, noise may be heard. This is unavoidable.</li> </ul>
Radio	The picture of your TV becomes unstable.
	• If you are listening to an FM program near the TV with an indoor antenna, move the player away from the TV.

Symptom	Remedy
Tape Player	The tape does not move when you press an operation button.
	• Close the cassette compartment securely.
	The REC button does not function/The tape does not play.
	<ul style="list-style-type: none"> <li>• Make sure the safety tab on the cassette is in place.</li> <li>• Make sure "TAPE" appears in the display.</li> </ul>
	The tape does not erase completely.
Tape Player	<ul style="list-style-type: none"> <li>• Clean the erasing head (see page 28.)</li> <li>• Replace all the batteries with new ones if they are weak.</li> </ul>
	The tape does not record.
	<ul style="list-style-type: none"> <li>• Make sure the tape is inserted properly.</li> <li>• Make sure the safety tab of the cassette is in place.</li> </ul>
Tape Player	The audio is weak/The audio quality is poor.
	<ul style="list-style-type: none"> <li>• Clean the heads, pinch roller and capstan (see page 28).</li> <li>• Demagnetize the heads using a demagnetizer (see page 28).</li> </ul>
	The sound is distorted.
Tape Player	<ul style="list-style-type: none"> <li>• The TYPE II (high position) or TYPE IV (metal) tape is being used. Use TYPE I (normal) tape only.</li> </ul>
	The timer does not operate.
	<ul style="list-style-type: none"> <li>• Make sure the time on the clock is correct.</li> <li>• Check to see if the AC power had been cut off.</li> <li>• Make sure the (clock) indication is displayed.</li> </ul>
Remote (CFD-\$33 only)	The remote does not function.
	<ul style="list-style-type: none"> <li>• Replace all the batteries in the remote with new ones if they are weak.</li> <li>• Make sure that you are pointing the remote at the remote sensor on the player.</li> <li>• Remove any obstacles in the path of the remote and the player.</li> <li>• Make sure the remote sensor is not exposed to strong light such as direct sunlight or fluorescent lamp light.</li> <li>• Move closer to the player when using the remote.</li> </ul>

The player uses a built-in micro computer for its various operations. Due to change in power supply conditions, etc., operation may sometimes become unstable. After trying the above remedies, if the player still does not function properly, press RESET in the battery compartment with a pointed material. If the problem persists, please consult your nearest Sony dealer.

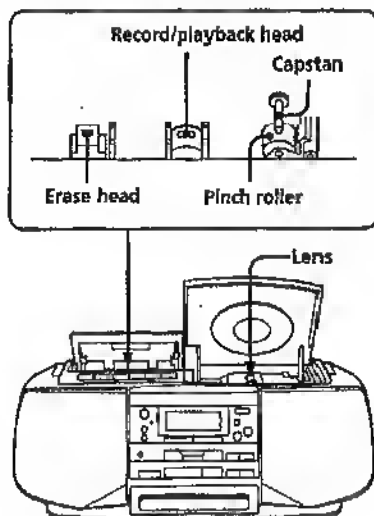
## Maintenance

### Cleaning the lens

If the lens becomes dirty, it may cause a skipping of sound during CD operation. Clean with a commercially available blower.

### Cleaning the tape heads and tape path

Wipe the heads, the pinch roller and the capstan with a cleaning swab slightly moistened with cleaning fluid or alcohol after every 10 hours of operation for optimum playback and recording quality. To make the best possible recording, however, we recommend that you clean all surfaces over which tape travels before each recording.



After cleaning, insert a tape when the areas cleaned are completely dry.

### Demagnetizing the tape heads

After 20 to 30 hours of use, enough residual magnetism will have built up on the tape heads to begin to cause loss of high frequency sound and hiss. At this time, you should demagnetize the heads and all metal parts in the tape path with a commercially available tape head demagnetizer.

### Cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzene.

## Specifications

### AUDIO POWER SPECIFICATIONS POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 2.8-ohm loads, both channels driven from 150 - 10,000 Hz; rated 2 W per channel; minimum RMS power, with no more than 10 % total harmonic distortion in AC operation.

### Other Specifications

#### CD player section

##### System

Compact disc digital audio system

##### Laser diode properties

Material: GaAlAs

Wave length: 780 nm

Emission duration: Continuous

Laser output: Less than 44.6 µW

(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

##### Spindle speed

200 r/min (rpm) to 500 r/min (rpm) (CLV)

##### Number of channels

2

##### Frequency response

20 - 20,000 Hz +1/-2 dB

##### Wow and flutter

Below measurable limit

#### Radio section

##### Frequency range

FM: 87.6 - 108 MHz

AM: 531 - 1,602 kHz (Australian model)

530 - 1,710 kHz (Other models)

##### Aerials

FM: Telescopic aerial

AM: Built-in ferrite bar aerial

#### Cassette-corder section

##### Recording system

4-track 2 channel stereo

##### Fast winding time

Approx. 120 s (sec.) with Sony cassette C-60

##### Frequency response

TYPE I (normal): 70 - 10,000 Hz

### General

#### Speaker

Full range: 10 cm (4 in.) dia.,  
2.8 ohms, cone type (2)

#### Outputs

Headphones jack (stereo mini-jack)

For 16 - 68 ohms impedance headphones

#### Power output (excluding US model)

2.5 W + 2.5 W (at 2.8 ohms, 10 % harmonic distortion)

#### Power requirements

For CD radio cassette-corder

#### For CD radio cassette-corder

230 V AC, 50 Hz (Australian model)

120 V AC, 60 Hz (Other models)

9 V DC, 6 size D (R20) batteries

For remote controller (CFD-S33 only):

3 V DC, 2 size AA (R6) batteries

#### Power consumption

AC 20 W

#### Battery life

For CD radio cassette-corder

#### FM recording

Sony R20P: approx. 13.5 h

Sony alkaline LR20: approx. 20 h

#### Tape playback

Sony R20P: approx. 7.5 h

Sony alkaline LR20: approx. 15 h

#### CD playback

Sony R20P: approx. 2.5 h

Sony alkaline LR20: approx. 7 h

#### Dimensions

Approx. 425 x 160 x 245 mm (w/h/d)  
(16 3/4 x 6 3/8 x 9 1/2 inches) (incl. projecting parts)

#### Mass

Approx. 4.0 kg (8 lb. 13 oz.) (incl. batteries)

#### Supplied accessories

AC power cord (1)

Remote control (1) (CFD-S33 only)

Design and specifications are subject to change without notice.

#### Optional accessories

Sony MDR headphones series

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